

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5**

IN THE MATTER OF:	)	Docket No. <b>V-W- '01-C-622</b>
	)	
SAUGET AREA 2 SITE	)	ADMINISTRATIVE ORDER BY
	)	CONSENT PURSUANT TO
SAUGET AND CAHOKIA, ILLINOIS	)	SECTION 106 OF THE
	)	COMPREHENSIVE
	)	ENVIRONMENTAL RESPONSE,
Respondent(s):	)	COMPENSATION, AND
	)	LIABILITY ACT OF 1980,
See Attachment A	)	as amended, 42 U.S.C.
	)	§ 9606(a)
	)	

**I. JURISDICTION AND GENERAL PROVISIONS**

This Administrative Order by Consent ("the Order") is entered voluntarily by the United States Environmental Protection Agency ("U.S. EPA") and the Respondent(s). The Order is issued pursuant to the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622. This authority has been delegated to the Administrator of the U.S. EPA by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A, 14-14-C and 14-14-D, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A, 14-14-C and 14-14-D.

U.S. EPA sent Special Notice of Liability letters, pursuant to Section 122(e)(1) of CERCLA, 42 U.S.C. § 9622(e)(1), requesting that the action that is the subject of this Order be performed. The Special Notice of Liability letters were sent to parties which were identified by U.S. EPA as potentially responsible. Respondents are the only recipients who responded positively to the Special Notice of Liability Letter. Respondents have joined together to perform the work under this Order as a group calling itself the Sauget Area 2 Sites Group (hereinafter referred to as "Group").

This Order requires the Respondent(s) to conduct a Remedial Investigation and Feasibility Study (RI/FS) for the Site designated as Sauget Area 2 (generally depicted in the figure included in the SOW, attached hereto as Attachment B) located within the Villages of Sauget and Cahokia, St. Clair County, Illinois. Specifically, Respondent(s) RI/FS shall gather data and evaluate response actions pursuant to 40 C.F.R. § 300.430(e), to address the environmental concerns in connection with Sauget Area 2 and the source areas within Area 2, designated as Sites O, P, Q, R and S.

A copy of this Order will also be provided to the State of Illinois, which has been notified of the issuance of this Order pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a). The U.S. EPA has also notified the Federal Natural Resource Trustee of the negotiations in this action pursuant to the requirements of Section 122(j) of CERCLA.

Respondent(s) participation in this Order shall not constitute an admission of liability or of U.S. EPA's findings or determinations contained in this Order except in a proceeding to enforce the terms of this Order. Respondent(s) agree to comply with and be bound by the terms of this Order. In any action by U.S. EPA or the United States to enforce the terms of this Consent Order, Respondent(s) consents to and agrees not to contest the authority or jurisdiction of the Regional Administrator to issue or enforce this Consent Order, and agrees not to contest the validity of this Order or its terms.

## **II. PARTIES BOUND**

This Order applies to and is binding upon U.S. EPA, and upon Respondent(s) and Respondent(s) heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondent(s) including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent(s) responsibilities under this Order. Respondent(s) are jointly and severally liable for carrying out all activities required by this Order. Compliance or noncompliance by one or more Respondent(s) with any provision of this Order shall not excuse or justify noncompliance by any other Respondent.

Respondent(s) shall ensure that their contractors, subcontractors, and representatives receive a copy of this Order, and comply with this Order. Respondent(s) shall be responsible for any noncompliance with this Order.

## **III. U.S. EPA FINDINGS OF FACT**

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds, and, for purposes of enforceability of this Order only, the Respondents stipulate only for the purposes of this Order that the factual statutory prerequisites under CERCLA necessary for issuance of this Order have been met. U.S. EPA's findings and this stipulation include the following:

1. The source areas for the Sauget Area 2 Site consist of five known disposal areas adjacent, or in close proximity, to the Mississippi River. The five disposal areas are known as Sites O, P, Q, R and S (see figure in attached SOW). The sites are labeled with letter designations for reference purposes only. The fact that source areas have separate letter designations does not necessarily mean that the areas are separate or distinct in terms of contents, ownership, and/or operating history. The fact that the source areas have been determined to comprise a single Site, Sauget Area 2, does not necessarily mean that the

source areas within Area 2 have the same contents or share the same ownership or operating history.

**SITE O:** Located on Mobile Avenue in Sauget, Illinois, occupies approximately 20 acres of land to the northeast of the American Bottoms Regional Wastewater Treatment Facility (ABRTF). An access road to the ABRTF runs through the middle of the site. Site O consists of four inactive sludge dewatering lagoons associated with the old Sauget Physical Chemical Wastewater Treatment Plant. Currently, the lagoons are covered with clay and are vegetated. During their operation the treatment plant and the associated lagoons received and treated industrial waste and municipal wastes. Of approximately 10 million gallons per day of wastewater treated at the Sauget Physical Chemical Plant, more than 95% was from area industries. The lagoons operated from approximately 1965 to 1978:

**SITE P:** Site P occupies approximately 20 acres of land located between the Illinois Central Gulf Railroad and the Terminal Railroad and north of Monsanto Avenue in the Village of Sauget. On information and belief, Site P was operated as a landfill from 1973 to an unknown date in the early 1980s. According to available Illinois EPA records, the landfill accepted "general wastes," including diatomaceous earth filter cake from Edwin Cooper (a/k/a Ethyl Corporation) and nonchemical wastes from Monsanto. Periodic State inspections of Site P also documented that the landfill contained drums labeled "Monsanto ACL-85, Chlorine Composition," drums of phosphorus pentasulfide from Monsanto and Monsanto ACL filter residues and packaging. Site P is currently inactive and covered and access to the site is unrestricted.

**SITE Q:** Site Q is a former subsurface/surface disposal area which occupies approximately 90 acres. The site is located in the Villages of Sauget and Cahokia, Illinois, and is bordered by Sauget Site R and the old Union Electric Power Plant on the north; the Illinois Central Gulf Railroad and the United States Corps of Engineers (U.S. COE) flood control levee on the east; and the Mississippi River on the west. U.S. EPA conducted a CERCLA removal action at Site Q in 1995. This removal action involved the excavation of PCBs, organics, metals, and dioxin contaminated soils and drums which had been scoured out of the fill area and were spilling directly into the adjacent waters of the Mississippi River. U.S. EPA recovered its costs for this removal in a subsequent administrative settlement. U.S. EPA conducted a second CERCLA removal action at Site Q beginning in October of 1999 and into early 2000. During this removal action, U.S. EPA has excavated more than 2,000 drums and more than 7,000 cubic yards of contaminated soils containing metals, PCBs, and organics. The Mississippi River has flooded and inundated Site Q and Site R (see below) many times during the last several years. Leachate from Site Q has in the past migrated and potentially could continue to migrate into the Mississippi River. Most of Site Q is covered with highly permeable black cinders. Operations for a barge loading facility and construction debris disposal areas now operate on top of parts of Site Q. Access to this site is also unrestricted.

**SITE R:** Located on the river side of the flood control levee immediately adjacent to the Mississippi River in Sauget, Illinois and just north and west of parts of Site Q, Site R, also known as the "Sauget Toxic Dump," "Monsanto Landfill," and the "River's Edge Landfill," is a former industrial waste subsurface/surface disposal area owned by Solutia, Inc. Site R was used as a disposal area by owner Monsanto for its industrial and chemical wastes from approximately 1957-1977. Samples taken on Site R revealed high levels of organics, PCBs, metals, and dioxins. The organics present in Site R include chlorobenzenes, chlorophenols and aniline derivatives. Leachate from the Site R has in the past migrated and potentially could continue to migrate into the Mississippi River. As noted above, the Mississippi River floods parts of Site R on occasion. Access to Site R is restricted by fencing and is monitored by a 24-hour camera. In 1979, Monsanto completed the installation of a clay cover on Site R to cover waste, limit infiltration through the landfill, and prevent direct contact with fill material. The cover's thickness ranges from 2 feet to approximately 8 feet. As constructed, the cover does not provide for permanent containment of the chemical wastes and other contaminants in the landfill. In 1985, Monsanto installed a 2,250 foot long rock revetment along the east bank of the Mississippi River adjacent to Site R. The purpose of the stabilization project was to prevent further erosion of the riverbank and thereby minimize potential for the surficial release of waste material from the landfill. As constructed, the revetment does not provide for the permanent containment of the chemical wastes and other contaminants in the landfill. On February 13, 1992, the State of Illinois and Monsanto signed a consent decree entered in St. Clair County Circuit Court requiring further remedial investigations and feasibility studies to be conducted by Monsanto on Site R. The results of the Remedial Investigation/Feasibility Study were submitted to Illinois EPA in 1994. As of the date of this Order, a final remedy for the Site has still not been determined.

**SITE S:** Site S is located on Village of Sauget property and is situated to the west-southwest of Site O. Historic aerial photographs indicate that Site S was a drum disposal area. In 1995, Illinois EPA took samples at the Site. The Site S sample results indicated the presence of high levels of BNAs, pesticides, PCBs, and metals. PCBs were found in every sample. The northern portion of Site S is grassed and the southern portion of the Site is covered with gravel and fenced.

2. Information on the types of wastes disposed of and the types and levels of contamination found at the Sauget Area 2 Site have been compiled from a variety of cited sources and are listed in a document entitled "Volume 2, Sauget Area 2 - Data Tables/Maps" completed for U.S. EPA by Ecology & Environment, Inc., and dated February 1998.

Known contaminants at the Sauget Area 2 Site are as follows:

**SITE O:** Soil samples collected from Site O have revealed elevated levels of volatile organic compounds (VOCs) such as 1,1,1 trichloroethane (1,410 ppb), benzene (30,769

ppb), 4-methyl-2-pentanone (7,692 ppb), toluene (29,487 ppb), chlorobenzene (58,974 ppb), ethylbenzene (166,667E ppb), and total xylenes (615,385E ppb). Elevated levels of semi-volatile organics (SVOCs) were also detected including 1,4-dichlorobenzene (112,821 ppb), 1,2-dichlorobenzene (606,000 ppb), 1,4-dichlorobenzene (1,030,000 ppb), 1,2,4-trichlorophenol (26,923 ppb), naphthalene (34,615 ppb), 2-methylnaphthalene (160,256 ppb), n-nitrosodiphenylamine (50,000J ppb), pentachlorophenol (1,620,000 ppb), phenanthrene (230,000 ppb), fluoranthene (74,000 ppb), pyrene (282,051 ppb), butyl benzyl phthalate (3,846,154E ppb), benzo(a)anthracene (121,795 ppb), 1,2,4-trichlorobenzene (65.3 ppm) and chrysene (282,051 ppb). Elevated levels of PCBs were also detected in Site O soils including aroclor 1232 (30,366 ppb) and aroclor 1242 (1,871,795 ppb). Elevated levels of dioxins were also detected in Site O soils including tetrachlorodibenzo-p-dioxin (170 ng/g). Elevated levels of heavy metals were also detected in Site O soils including cadmium (31 ppm), copper (341 ppm), mercury (6.3 ppm), nickel (136 ppm) and zinc (1,398 ppm).

Groundwater samples collected from Site O have indicated the presence of elevated levels of VOCs including methylene chloride (52,000 ppb), trans-1,2-dichloroethene (14,000 ppb), 2-butanone (62,000 ppb), trichloroethene (83,000 ppb), benzene (190,000 ppb), 4-methyl-2-pentanone (38,000 ppb), tetrachloroethene (10,000 ppb), 1,1,2,2-tetrachloroethane (12,000 ppb), toluene (15,000 ppb), and chlorobenzene (180,000E ppb). Elevated levels of SVOCs were also detected in groundwater at Site O including phenol (1,100 ppb), 1,4-dichlorobenzene (15,000E ppb), 1,2-dichlorobenzene (11,000E ppb), 4-methylphenol (1,100 ppb), and 4-chloroaniline (780 ppb). Elevated levels of heavy metals have also been detected in groundwater at Site O including arsenic (133 ppb), cadmium (11 ppb), and lead (6,350 ppb).

**SITE P:** Soil samples collected from Site P have revealed elevated levels of VOCs such as toluene (413 ppb), and total xylenes (450 ppb). Elevated levels of SVOCs were also detected including phenol (3,875J ppb), 1,4-dichlorobenzene (8,875J ppb), 1,2-dichlorobenzene (3,625J ppb) and di-n-butyl phthalate (16,250J ppb). Elevated levels of metals were also found in soils, such as lead (526 ppm), mercury (3.9 ppm) and cyanide (15 ppm).

**SITE Q:** Soil samples collected from Site Q have revealed elevated levels of organic compounds including 1,4-dichlorobenzene (1,200,000 ppb), bis(2-ethylhexyl)phthalate (1,100,000 ppb), di-n-butyl phthalate (900,000 ppb), chlorobenzene (100,000 ppb), ethylbenzene (790,000 ppb), toluene (2,400,000 ppb), 4-methyl-2-pentanone (250,000 ppb), and o-xylene (2,300,000 ppb). Elevated levels of PCBs were also detected in Site Q soils including aroclor 1254 (360,000 ppb), aroclor 1248 (70,000 ppb), and aroclor 1260 (16,000,000 ppb). An elevated level of 2,3,7,8-TCDD (dioxin) was also detected in Site Q soil at a concentration of 3.31 ppb. Elevated levels of heavy metals were also detected in soil samples collected from Site Q including antimony (17,900N ppm), arsenic (216 NS ppb), cadmium (152,000 ppm), chromium (3,650 ppm), copper (1,630

ppm), lead (195,000 ppm), mercury (4.9 ppm), nickel (371 N ppm), selenium (59.9 ppm), silver (30.2 N ppm), thallium (.89 B ppm), and zinc (9,520 ppm).

Groundwater samples collected from Site Q have revealed the presence of elevated levels of VOCs including 1,2 dichloroethane (3,000 ppb), benzene (2,000J ppb), 4-methyl-2-pentanone (2,700J ppb), 2-hexanone (3,500J ppb), toluene (1,600J ppb), and chlorobenzene (6,700J ppb). Elevated levels of SVOCs were also detected including phenol (190,000E ppb), 2-chlorophenol (33,000E ppb), 4-methylphenol (23,000E ppb), 2,4-dimethylphenol (2,800 ppb), 2,4-dichlorophenol (14,000E ppb), 4-chloroaniline (15,000E ppb), 2,4,6-trichlorophenol (6,000 ppb), 2-nitroaniline (2,000 ppb), pentachlorophenol (35,000E ppb), and acenaphthylene (3,900 ppb). Elevated levels of arsenic (100 ppb) and cyanide (1,560 ppb) were also detected in Site Q groundwater.

Site R: This site has been sampled extensively by U.S. EPA, Illinois EPA, and Monsanto starting in the early 1980s. A summary of the data collected at Site R are presented here. Sediment samples collected from a drainage ditch surrounding Site R showed VOC concentrations ranging from .002 to .035 ppm. SVOC concentrations in sediments ranged from .045 to 3.99 ppm. PCBs were detected at concentrations ranging from .08 to 1.5 ppm. Elevated levels of metals, particularly aluminum, iron and magnesium were also detected. Sediment samples collected adjacent to the Mississippi River on the west side of Site R showed SVOC contamination ranging from .001 to 7.7 ppm. PCBs were also detected at concentrations ranging from .00001 to .23 ppm. Soil samples collected from Site R showed elevated levels of VOCs ranging from .15 to 5,800 ppm. SVOCs were found at levels ranging from .017 to 19,000 ppm. Pesticides were found at levels ranging from .011 to 99 ppm and PCBs were detected at levels ranging from .075 to 4,800 ppm. Elevated levels of arsenic, chromium, lead, nickel and mercury were also detected in Site R soils.

Leachate samples located directly east of Site R adjacent to the Mississippi River were also collected. SVOC concentrations in the leachate ranged from .6 to 12.3 ppb. Pesticide concentrations ranged from .5 to 3.0 ppb and PCBs were detected at .08 ppb. Dioxin/furan concentrations ranged from .0001 to .0014 ppm. Cyanide was also detected at 71 ppb. Surface water samples were also collected from the adjacent waters of the Mississippi River near Site R, dioxins were found in the water ranging in concentration from .0001 to .0007 ppm.

Extensive groundwater investigations have also been conducted at Site R. Samples collected from wells on and immediately downgradient of Site R have shown high levels of VOCs in concentrations up to 38,136 ppb. SVOC concentrations have also been detected as high as 2,973,885 ppb.

Site S: Soil samples collected from Site S have shown elevated concentrations of VOCs including 1,1,1-trichloroethane (12,000 ppb), 4-methyl-2-pentanone (93,000 ppb),

toluene (990,000 ppb), ethylbenzene (450,000 ppb), and total xylene (620,000 ppb). Elevated levels of SVOCs were also detected including naphthalene (200,000 ppb), di-n-butyl phthalate (1,500,000J ppb), butyl benzyl phthalate (490,000J ppb), bis(2-ethylhexyl)phthalate (20,000,000J ppb), and di-n-octyl phthalate (310,000 ppb). PCBs were also detected at elevated concentrations including aroclor 1248 (85,000pc ppb), aroclor 1254 (69,000c ppb), and aroclor 1260 (41,000pc ppb). Elevated levels of heavy metals were also detected in Site S soils including copper (139 ppm), lead (392 ppb), mercury (3.5 ppm), and zinc (327 ppm).

3. On information and belief, parties which generated wastes which were disposed of, released into and/or transported wastes to the Sauget Area 2 Site, include, but are not limited to, the following:

SITE O: Rogers Cartage Company, Midwest Rubber Reclaiming (Division of Empire Chem., Inc.), Amax Zinc Corporation, Mobil Oil Corporation, Monsanto Chemical Company, Ethyl Corporation, Ethyl Petroleum Additives, Inc., and Clayton Chemical Co. (Division of Emerald Environmental, LLC.), Cerro Copper Products Company, Blue Tee Corp., Gold Fields American Corporation, American Zinc, Lead and Smelting Company; American Zinc Company, and Wiese Planning and Engineering.

SITE P: Monsanto Chemical Company, Kerr-McGee Chemical Corporation, and Edwin Cooper.

SITE Q and/or R: Monsanto Chemical Company, Barry Weinmiller Steel Fabrication, Crown Cork & Seal Company, Inc., Dennis Chemical Company, Inc., Inmont Corporation, U.S. Paint Corporation, Kerr McGee Chemical Corporation, Dow Chemical, Mallinckrodt Chemical, Myco-Gloss, Clayton Chemical Company, United Technologies Corporation, AALCO Wrecking Company, Inc., Abco Trash Service & Equip. Company, Able Sewer Service, Ajax Hickman Hauling, Amax Zinc, Atlas Service Company, Banjo Iron Company, Becker Iron & Metal Corporation, Belleville Concrete Cont. Company, Bi-State Parks Airport, Bi-State Transit Company, Boyer Sanitation Service, Browning-Ferris Industries of St. Louis, C&E Hauling, Cargill Inc., Century Electric Company, Circle Packing Company, Corkery Fuel Company, David Hauling, State of Illinois Department of Transportation, Disposal Service Company, Dore Wrecking Company, Dotson Disposal "All" Service, Edgemont Construction, Edwin Cooper Inc., Eight & Trendy Metal Company, Evans Brothers, Finer Metals Company, Fish Disposal, Fruin-Colnon Corporation, Gibson Hauling, H.C. Fournie Inc., H.C. Fournie Plaster, Hilltop Hauling, Huffmeier Brothers, Hunter Packing Company, Lefton Iron & Metal Company, Midwest Sanitation, Mississippi Valley Control, Obear Nestor, Roy Baur, Thomas Byrd, and Trash Men Inc.

SITE S: Clayton Chemical Co. (Division of Emerald Environmental, LLC.)

**NON SITE-SPECIFIC GENERATORS/TRANSPORTERS:** Rogers Cartage Company, Browning Ferris Industries, Inc., Browning Ferris Industries of St. Louis, Inc., C&E Hauling Company, Disposal Services Company, Hilltop Hauling, Inc., Paul Sauget, and National Vendors

4. On information and belief, parties which own and/or operate, or previously owned and/or operated, portions of the waste disposal areas at Sauget Area 2 include, but are not limited to, the following:

**SITE O:** Village of Sauget and the Sauget Sanitary Development and Research Assn.

**SITE P:** Solutia, Inc., Chicago Title & Trust Company (Trust numbers 1083190 and 1083190), City of East St. Louis, Gulf-Mobile & Ohio Railroad, Southern Railway System, Magna Trust Company (Trust numbers 03-90-0744-00 and 22-358), Metro East Sanitary District, Norfolk Southern Corp., SI Enterprises L.P., Union Electric Company, and Cahokia Trust Properties and Sauget and Company.

**SITE Q:** Alton & Southern Railroad, Village of Cahokia, Monsanto Company, Norfolk Southern Corporation, Notre Dame Fleeting and Towing Services, Patgood Inc., Phillips Pipe Line Company, Pillsbury Company (leasee), River Port Terminal and Fleeting Company, Village of Sauget, St. Louis Grain Company, Union Electric Company, Cahokia Trust Properties, Eagle Marine Industries Inc., Sauget & Company (c/o Paul Sauget), Industrial Salvage & Disposal Company, Clayton Chemical Company, Con-Agra, Inc., and Peavey Company.

**SITE R:** Monsanto Chemical Company, Solutia, Inc., Cahokia Trust Properties and Sauget and Company.

**SITE S:** A-1 Oil Corporation, Russell Bliss, Bliss Waste Oil Inc., Chemical Waste Management, Onyx Environmental Services, Norfolk Southern Corporation, Village of Sauget, Monsanto Chemical Company, and Clayton Chemical Co. (Division of Emerald Environmental LLC).

#### **IV. CONCLUSIONS OF LAW AND DETERMINATIONS**

Based on the U.S. EPA's Findings of Fact set forth above, and the Administrative Record in this matter, U.S. EPA has determined that:

1. The Sauget Area 2 Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
2. The substances described in Section III, paragraph 2 are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).



3. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

4. Respondent(s) listed in Section III, paragraph 4, are the past and present "owners or operators" of the Sauget Area 2 Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20). The Respondent(s) listed in Section III, paragraph 3, are persons who generated or who arranged for disposal or transport for disposal of hazardous substances at one or more source areas within the Sauget Area 2 Site. Respondent(s) are therefore liable persons under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

5. The conditions described in the U.S. EPA's Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§ 9601(8) and (22).

6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended ("NCP"), 40 C.F.R. Part 300. These factors include, but are not limited to, the following:

a. actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants; this factor is present at the Site due to the presence of elevated levels of contaminants, including VOCs, SVOCs, PCBs, dioxins, pesticides, and metals, in the surface soils and sediments of the disposal areas of the Site (i.e., Sites O, P, Q, R and S).

b. actual or potential contamination of drinking water supplies or sensitive ecosystems; this factor is present at the Site due to the presence of elevated levels of contaminants, including VOCs, SVOCs, and metals, in groundwater. The source of drinking water for local residents is assumed to be primarily from surface water sources located upstream of the Site. Despite the fact that the Villages of Cahokia and Sauget have ordinances prohibiting the use of groundwater as a potable water supply, many residences in the Cahokia area continue to use private wells for domestic uses. Contaminated groundwater is discharging into the adjacent waters of the Mississippi River. The Mississippi River contains a variety of ecosystems which may be damaged by the types of contamination found at Sauget Area 2. The closest intake for drinking water supplies along the Mississippi River is approximately 65 miles downstream from the St. Louis Metro area at Chester, Illinois.

c. high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate; this factor is present at the Site due to the existence of elevated levels of VOCs, SVOCs, PCBs, dioxins, pesticides and metals in soil at the Site.

d. weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; this factor is present at the Site due to existence of elevated levels of VOCs,

SVOCs, PCBs, dioxins, pesticides and metals in the soils within each component of Sauget Area 2 (Sites O, P, Q, R and S) which may be released directly into the Mississippi River as a result of flooding on the River. Those areas most vulnerable to inundation by the Mississippi River are Sites Q and R which are situated within the river-side of the Corps of Engineers' flood control levee. In 1995, during a major flood event on the Mississippi River, drums of waste material (PCBs) were scoured out of the side of Site Q and were washed into the River and along the bank of the River.

7. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

8. The actions required by this Order, if properly performed, are consistent with the NCP, 40 C.F.R. Part 300, as amended, and with CERCLA, and are reasonable and necessary to protect the public health, welfare, and the environment.

## **V. ORDER**

Based upon the foregoing Findings of Fact, Conclusions of Law and Determinations, and the Administrative Record for this Site, it is hereby ordered and agreed that Respondent(s) shall comply with the following provisions, including but not limited to all attachments to this Order, and all documents incorporated by reference into this Order, and perform the following actions:

### **1. Designation of Contractor, Project Coordinator, On-Scene Coordinator or Remedial Project Manager**

Respondent(s) shall perform the actions required by this Order themselves and/or retain a contractor to undertake and complete the requirements of this Order. Respondent(s) shall notify U.S. EPA of Respondent('s(') qualifications and/or the name and qualifications of contractor(s) which Respondents will be considering to use to complete the requirements of this Order, as applicable, within 10 business days of the effective date of this Order. Respondent(s) shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondent(s) or any of the contractors and/or subcontractors retained by the Respondent(s) within 10 days of notification of the Respondent(s). If U.S. EPA disapproves a selected contractor, Respondent(s) shall retain a different contractor within 10 business days following U.S. EPA's disapproval, and shall notify U.S. EPA of that contractor's name and qualifications within 15 business days of U.S. EPA's disapproval.

Within 5 business days after the effective date of this Order, the Respondent(s) shall designate a Project Coordinator who shall be responsible for administration of all the Respondent('s(') actions required by the Order. Respondent(s) shall submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. U.S. EPA retains the right to disapprove of any

Project Coordinator named by the Respondent(s) within 10 days of notification by the Respondent(s). If U.S. EPA disapproves a selected Project Coordinator, Respondent(s) shall retain a different Project Coordinator within 10 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 10 business days of U.S. EPA's disapproval. Receipt by Respondent(s) Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by all Respondent(s).

The U.S. EPA has designated Michael McAteer of the Remedial Response Branch, Region 5, as its Remedial Project Manager ("RPM"). Respondent(s) shall direct all submissions required by this Order to the RPM at 77 West Jackson Boulevard (SR-6J), Chicago, Illinois 60604-3590, by certified or express mail. Respondent(s) shall also send a copy of all submissions to Thomas Martin, Associate Regional Counsel, 77 West Jackson Boulevard, (C-14J), Chicago, Illinois, 60604-3590. All Respondent(s) are encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant postconsumer waste paper content where possible) and using two-sided copies, and, at U.S. EPA request, on CD ROM disks.

U.S. EPA and Respondent(s) shall have the right, subject to the immediately preceding paragraph, to change their designated RPM or Project Coordinator. U.S. EPA shall notify the Respondent(s), and Respondent(s) shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. The initial notification may be made orally but it shall be promptly followed by a written notice within two business days of oral notification.

## 2. Work to Be Performed

Respondent(s) shall develop and submit to U.S. EPA an RI/FS report (Task 3 of the SOW) in accordance with the attached Scope of Work ("SOW"). The attached SOW is incorporated into and made an enforceable part of this Order.

The RI/FS report shall be consistent with, at a minimum, the U.S. EPA guidance entitled, "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (U.S. EPA, Office of Emergency and Remedial Response, October 1988) and any other guidance that U.S. EPA uses in conducting an RI/FS.

### 2.1 RI/FS Support Sampling Plan

Within 90 calendar days of the effective date of this Order, the Respondent(s) shall submit to U.S. EPA for approval a draft RI/FS Support Sampling Plan (Task 1 of the SOW) that is consistent with this Order and the SOW.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft RI/FS Support Sampling Plan. If U.S. EPA requires revisions, Respondent(s) shall submit a revised Support Sampling Plan incorporating all of U.S. EPA's required revisions within 30 calendar days of receipt of U.S. EPA's notification of the required revisions.

In the event of U.S. EPA disapproval of the revised Support Sampling Plan, Respondent(s) may be deemed in violation of this Order; however, approval shall not be unreasonably withheld by U.S. EPA. In such event, U.S. EPA retains the right to terminate this Order, conduct a complete Support Sampling Plan and the sampling activities, and obtain reimbursement for costs incurred in conducting the plan and the sampling activities from the Respondent(s).

Respondent(s) shall not commence or undertake any support sampling activities at the Site without prior U.S. EPA approval.

#### **2.1.1 Health and Safety Plan**

As part of the RI/FS Support Sampling Plan, the Respondent(s) shall submit for U.S. EPA review and comment a plan that ensures the protection of the public health and safety (Task 1, Section D, of the SOW) during performance of on-site work under this Order. This plan shall comply with applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondent(s) shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the support sampling.

#### **2.1.2 Quality Assurance and Sampling**

As part of the RI/FS Support Sampling Plan, the Respondent(s) shall ensure that all sampling and analyses performed pursuant to this Order conforms to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent(s) shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance.

Upon request by U.S. EPA, Respondent(s) shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondent(s) shall provide to U.S. EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondent(s) shall also ensure provision of analytical tracking information consistent with, at a minimum, OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondent(s) shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondent(s) or its (their) contractors or agents while performing work under this Order. Respondent(s) shall notify U.S. EPA not less than 10 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

## 2.2 RI/FS Report

Within 12 months after the collection of the last field sample as part of the Remedial Investigation (Task 2), the Respondent(s) shall submit to U.S. EPA for approval a draft RI/FS Report (Task 3 of the SOW) that is consistent with this Order and the SOW.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft RI/FS Report. If U.S. EPA requires revisions, Respondent(s) shall submit a revised RI/FS Report incorporating all of U.S. EPA's required revisions within 30 days of receipt of U.S. EPA's notification of the required revisions.

In the event of U.S. EPA disapproval of the revised RI/FS Report, Respondent(s) may be deemed in violation of this Order; however, approval shall not be unreasonably withheld by U.S. EPA. In such event, U.S. EPA retains the right to terminate this Order, conduct a complete RI/FS, and obtain reimbursement for costs incurred in conducting the RI/FS from the Respondent(s).

The revised report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this RI/FS Report, the information submitted is true, accurate, and complete.

Respondent(s) shall not commence or undertake any remedial actions at the Site without prior U.S. EPA approval.

## 2.4 Reporting

Respondent(s) shall submit a monthly written progress report to U.S. EPA concerning actions undertaken pursuant to this Order, beginning 30 calendar days after the effective date of this Order, until termination of this Order, unless otherwise directed in writing by the RPM. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Any Respondent that owns any portion of the Sauget Area 2 Site shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.3 (Access to Property and Information).

## 2.5 Additional Work

In the event that the U.S. EPA or the Respondent(s) determine(s) that additional work is necessary to accomplish the objectives of the RI/FS Report, notification of such additional work shall be provided to the other part(y)(ies) in writing at least 10 days prior to the date the work must begin. Upon request of the Respondent(s), U.S. EPA's time frame for the initiation of additional work may be extended for good cause. Any additional work which Respondent(s) determine(s) to be necessary shall be subject to U.S. EPA's written approval prior to commencement of the additional work. Respondent(s) shall complete, in accordance with standards, specifications, and schedules U.S. EPA has approved, any additional work Respondent(s) has (have) proposed, and which U.S. EPA has approved in writing or that U.S. EPA has determined to be necessary, and has (have) provided written notice of pursuant to this paragraph.

If the Respondent(s) disagree(s) with the U.S. EPA over the necessity for an additional work item(s) or the required schedule, the Respondent(s) have the right to appeal such disputes under Section VIII, Dispute Resolution. Stipulated penalties shall accrue, but need not be paid, during the dispute resolution period concerning the specific penalties at issue. If Respondents prevail upon resolution, Respondents shall pay only penalties as the resolution requires. In its unreviewable discretion, U.S. EPA may waive its right to demand all or a portion of the stipulated penalties due.

## 3. Access to Property and Information

Respondent(s) shall provide or obtain access to the Site and off-site areas to which access is necessary to implement this Order, and shall provide access to all records and documentation related to the conditions at the Site and the actions conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and State of Illinois representatives. These individuals shall be permitted to move freely at the Site and appropriate off-site areas to which Respondent(s) have access in order to conduct actions which U.S. EPA determines to be necessary. Respondent(s) shall submit to U.S. EPA, upon receipt, the results of all sampling or tests and all other data generated by Respondent(s) or its (their) contractor(s), or on the Respondent(')s(') behalf during implementation of this Order.

Where work or action under this Order is to be performed in areas owned by or in possession of someone other than Respondent(s), Respondent(s) shall use its (their) best efforts to obtain all necessary access agreements within 10 calendar days after U.S. EPA approval of the RI/FS Support Sampling Plan (Task 1), or as otherwise specified in writing by the RPM. Respondent(s) shall immediately notify U.S. EPA within 2 business days if, after using its (their) best efforts, it is (they are) unable to obtain such agreements. Respondent(s) shall describe in writing its (their) efforts to obtain access. U.S. EPA may, in its discretion, then assist Respondent(s) in gaining access, to the extent necessary to effectuate the actions described herein, using such means as

U.S. EPA deems appropriate. Respondent(s) shall reimburse U.S. EPA for all costs and attorneys fees incurred by the United States in obtaining such access.

#### **4. Record Retention, Documentation, Availability of Information**

Respondent(s) shall preserve all documents and information in their possession relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for six years following completion of the actions required by this Order. At the end of this six-year period and at least 60 days before any document or information is destroyed, Respondent(s) shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondent(s) shall provide copies of any such non-privileged documents and information retained under this Section at any time before expiration of the six-year period at the written request of U.S. EPA.

If Respondent(s) assert a privilege in lieu of providing documents, they shall provide U.S. EPA with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Respondent(s). However, no documents, reports, or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

#### **5. Off-site Shipments**

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Revised Off-Site Rule, 40 C.F.R. § 300.440.

#### **6. Compliance With Other Laws**

Respondent(s) shall perform all activities required pursuant to this Order in accordance with all the requirements of all federal and state laws and regulations. U.S. EPA has determined that the activities contemplated by this Order are consistent with the National Contingency Plan ("NCP").

Except as provided in Section 121(e) of CERCLA and the NCP, no permit shall be required for any portion of the activities conducted entirely on-site. Where any portion of the activities requires a federal or state permit or approval, the Respondent(s) shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.

This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

## **7. Emergency Response and Notification of Releases**

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondent(s) shall immediately take all appropriate action to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent(s) shall also immediately notify the RPM or, in the event of his unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions. If Respondent(s) fail(s) to respond, U.S. EPA may respond to the release or endangerment and reserves the right to recover costs associated with that response.

Respondent(s) shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the recurrence of such a release. Respondent(s) shall also comply with any other notification requirements, including those in CERCLA Section 103, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

## **VI. AUTHORITY OF THE U.S. EPA REMEDIAL PROJECT MANAGER**

The RPM shall be responsible for overseeing the implementation of this Order. The RPM shall have the authority vested in an RPM by the NCP, including the authority to halt, conduct, or direct any activities required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondent(s) at the Site. Absence of the RPM from the Site shall not be cause for stoppage of work unless specifically directed by the RPM.

## **VII. REIMBURSEMENT OF OVERSIGHT COSTS FOR RI/FS**

Respondent(s) shall pay all oversight costs of the United States related to the Site that are not inconsistent with the NCP.

U.S. EPA will send Respondent(s) a bill for "oversight costs" on an annual basis. U.S. EPA's bill will include an Itemized Cost Summary. "Oversight costs" are all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Order. "Oversight costs" shall also include all costs, including direct and indirect costs, paid by the United States in connection with the Site.

Respondent(s) shall, within 45 calendar days of receipt of a bill, remit a cashier's or certified check for the amount of the bill made payable to the "Hazardous Substance Superfund," to the following address:



U.S. Environmental Protection Agency  
Superfund Accounting  
P.O. Box 70753  
Chicago, Illinois 60673

Respondent(s) shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be designated as "Response Costs - Sauget Area 2 Site" and shall reference the payor(')s(') name and address, the EPA site identification number (05XX/0558), and the docket number of this Order.

In the event that any payment is not made within the deadlines described above, Respondent(s) shall pay interest on the unpaid balance. Interest is established at the rate specified in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). The interest shall begin to accrue on the 45<sup>th</sup> day after the Respondent's receipt of the bill. Interest shall accrue at the rate specified through the date of the payment. Payments of interest made under this paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent(')s(') failure to make timely payments under this Section.

If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent(s) shall pay the full amount of the uncontested costs into the Hazardous Substance Fund as specified above on or before the due date. Within the same time period, Respondent(s) shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent(s) shall simultaneously transmit a copy of both checks to the RPM. Respondent(s) shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within 20 calendar days after the dispute is resolved.

### **VIII. DISPUTE RESOLUTION**

The parties to this Order shall attempt to resolve, expeditiously and informally, any disagreements concerning this Order.

If the Respondent(s) object(s) to any U.S. EPA action taken pursuant to this Order, including billings for costs, the Respondent(s) shall notify U.S. EPA in writing of its (their) objection(s) within 14 calendar days of such action, unless the objection(s) has (have) been informally resolved. This written notice shall include a statement of the issues in dispute, the relevant facts upon which the dispute is based, all factual data, analysis or opinion supporting Respondent(')s(') position, and all supporting documentation on which the Respondent(s) rely (hereinafter the "Statement of Position").

U.S. EPA and Respondent(s) shall within 15 calendar days of U.S. EPA's receipt of the Respondent(')(s)(') Statement of Position, attempt to resolve the dispute through formal negotiations (Negotiation Period). The Negotiation Period may be extended at the sole discretion of U.S. EPA. U.S. EPA's decision regarding an extension of the Negotiation Period shall not constitute a U.S. EPA action subject to dispute resolution or a final Agency action giving rise to judicial review.

An administrative record of any dispute under this Section shall be maintained by U.S. EPA. The record shall include the written notification of such dispute, and the Statement of Position served pursuant to the preceding paragraph.

Any agreement reached by the parties pursuant to this Section shall be in writing, signed by all parties, and shall upon the signature by the parties be incorporated into and become an enforceable element of this Order. If the parties are unable to reach an agreement within the Negotiation Period, the Director of the Superfund Division of Region 5, U.S. EPA will issue a written decision on the dispute to the Respondent(s). The decision of U.S. EPA shall be incorporated into and become an enforceable element of this Order upon Respondent(')(s)(') receipt of the Division Director's decision regarding the dispute.

Respondent(')(s)(') obligations under this Order shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent(s) shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with U.S. EPA's decision, whichever occurs. No U.S. EPA decision made pursuant to this Section shall constitute a final Agency action giving rise to judicial review.

#### **IX. FORCE MAJEURE**

Respondent(s) agree(s) to perform all requirements under this Order within the time limits established under this Order, unless the performance is delayed by a force majeure. For purposes of this Order, a force majeure is defined as any event arising from causes beyond the control of Respondent(s) or of any entity controlled by Respondent(s), including but not limited to its (their) contractors and subcontractors, that delays or prevents performance of any obligation under this Order despite Respondent(')(s)(') best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the work or increased cost of performance.

Respondent(s) shall notify U.S. EPA orally within 24 hours after Respondent(s) become aware of any event that Respondent(s) contend(s) constitute a force majeure, and in writing within 7 calendar days after Respondent(s) become aware of any events which constitute a force majeure. Such notice shall: identify the event causing the delay or anticipated delay; estimate the anticipated length of delay, including necessary demobilization and re-mobilization; state the measures taken or to be taken to minimize the delay; and estimate the timetable for implementation of the measures. Respondent(s) shall take all reasonable measures to avoid and minimize the delays. Failure to comply with the notice provision of this Section shall be grounds for U.S. EPA

to deny Respondent(s) an extension of time for performance. Respondent(s) shall have the burden of demonstrating by a preponderance of the evidence that the event is a force majeure, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay.

If U.S. EPA determines a delay in performance of a requirement under this Order is or was attributable to a force majeure, the time period for performance of that requirement shall be extended as deemed necessary by U.S. EPA. Such an extension shall not alter Respondent ('s') obligation to perform or complete other tasks required by the Order which are not directly affected by the force majeure.

#### **X. STIPULATED AND STATUTORY PENALTIES**

For each calendar day, or portion thereof, that Respondent(s) fail(s) to fully perform any requirement of this Order in accordance with the schedule established pursuant to this Order, Respondent(s) shall be liable as follows:

<u>Deliverable/Activity</u>	<u>Penalty For Days 1-7</u>	<u>Penalty For &gt; 7 Days</u>
Failure to Submit a Draft Support Sampling Plan, or RI/FS Report	\$1,000/Day	\$2,500/Day
Failure to Submit a revised Support Sampling Plan, or RI/FS Report	\$1,000/Day	\$2,500/Day
Failure to Submit a Data Report	\$500/Day	\$1,000/Day
Late Submittal of Progress Reports or Other Miscellaneous Reports/Submittals	\$250/Day	\$500/Day
Failure to Meet any Scheduled Deadline in the Order	\$250/Day	\$500/Day

Upon receipt of written demand by U.S. EPA, Respondent(s) shall make payment to U.S. EPA within 20 calendar days and interest shall accrue on late payments in accordance with Section VII of this Order (Reimbursement of Costs).

Even if violations are simultaneous, separate penalties shall accrue for separate violations of this Order. Penalties accrue and are assessed per violation per day. Penalties shall accrue regardless of whether U.S. EPA has notified Respondent(s) of a violation or act of noncompliance. The payment of penalties shall not alter in any way Respondent(s)' obligation(s) to complete the performance of the work required under this Order. Stipulated penalties shall accrue, but need not be paid, during any dispute resolution period concerning the particular penalties at issue. If Respondent(s) prevail(s) upon resolution, Respondent(s) shall pay only such penalties as the resolution requires. In its unreviewable discretion, U.S. EPA may waive its rights to demand all or a portion of the stipulated penalties due under this Section.

The stipulated penalties set forth above shall not be the sole or exclusive remedy for violations of this Order. Violation of any provision of this Order may subject Respondent(s) to civil penalties of up to twenty-seven thousand five hundred dollars (\$27,500) per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1). Respondent(s) may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should Respondent(s) violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

#### **XI. RESERVATION OF RIGHTS**

Except as specifically provided in this Order, nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondent(s) in the future to perform additional activities pursuant to CERCLA or any other applicable law.

#### **XII. OTHER CLAIMS**

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent(s). The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondent(s) or its (their) directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order.

Except as expressly provided in Section XIII (Covenant Not to Sue), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondent(s) or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a), 9607(a). Nothing in this Order prevents claims or causes of actions from being asserted and/or pursued against the United States for activities that would subject it to liability under 42 U.S.C. § 9607.

This Order does not constitute a preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2). The Respondent(s) waive(s) any claim to payment under Sections 106(b), 111, and 112 of CERCLA, 42 U.S.C. §§ 9606(b), 9611, and 9612, against the United States or the Hazardous Substance Superfund arising out of any action performed under this Order.

No action or decision by U.S. EPA pursuant to this Order shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

### **XIII. COVENANT NOT TO SUE**

Except as otherwise specifically provided in this Order, upon issuance of the U.S. EPA notice referred to in Section XVII (Notice of Completion), U.S. EPA covenants not to sue Respondent(s) for judicial imposition of damages or civil penalties or to take administrative action against Respondent(s) for any failure to perform actions agreed to in this Order except as otherwise reserved herein.

This Order does not address past response costs incurred at the Sauget Area 2 Site and U.S. EPA reserves its right to sue or to take administrative action against Respondent(s) and other potentially responsible parties under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for recovery of past response costs incurred by the United States in connection with this action or this Order

Except as otherwise specifically provided in this Order, in consideration and upon Respondent(s) payment of the oversight costs specified in Section VIII of this Order, U.S. EPA covenants not to sue or to take administrative action against Respondent(s) under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for recovery of oversight costs incurred by the United States in connection with this Order. This covenant not to sue shall take effect upon the receipt by U.S. EPA of the payments required by Section VII (Reimbursement of Costs).

This covenant not to sue is conditioned upon the complete and satisfactory performance by Respondent(s) of (its/their) obligations under this Order. This covenant not to sue extends only to the Respondent(s) and does not extend to any other person.

#### **XIV. CONTRIBUTION PROTECTION**

With regard to claims for contribution against Respondent(s) for matters addressed in this Order, the Parties hereto agree that the Respondent(s) is (are) entitled to protection from contribution actions or claims to the extent provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4). In the event a Respondent expressly withdraws from or is formally removed from the Sauget Area 2 Sites Group, such Respondent will not receive contribution protection under this Order for matters under this Order not addressed and paid for during its membership in the Group.

Nothing in this Order precludes parties from asserting any claims, causes of action or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

#### **XV. INDEMNIFICATION**

Respondent(s) agree(s) to indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action: (a) arising from, or on account of, acts or omissions of Respondent(s) and Respondent(')(s)(') officers, heirs, directors, employees, agents, contractors, subcontractors, receivers, trustees, successors or assigns, in carrying out actions pursuant to this Order; and (b) for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between (any one or more of) Respondent(s), and any persons for performance of work on or relating to the Site, including claims on account of construction delays. Nothing in this Order, however, requires indemnification by Respondent(s) for any claim or cause of action against the United States based on negligent, fraudulent or criminal action taken solely and directly by U.S. EPA or its officials, agents, contractors, subcontractors, employees and representatives (not including oversight or approval of plans or activities of the Respondent(s)).

#### **XVI. MODIFICATIONS**

Except as otherwise specified in Section V.2 (Work To Be Performed), if any party believes modifications to any plan or schedule are necessary during the course of this project, they shall conduct informal discussions regarding such modifications with the other parties. Any agreed-upon modifications to any plan or schedule shall be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the RPM's oral direction. Any other requirements of this Order may be modified in writing by mutual agreement of the parties. Any modification to this Order shall be incorporated into and made an enforceable part of this Order.

If Respondent(s) seek permission to deviate from any approved plan or schedule, Respondent(')(s)(') Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondent(s) shall relieve Respondent(s) of their obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

#### **XVII. NOTICE OF COMPLETION**

When U.S. EPA determines that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention, payment of costs), U.S. EPA will provide written notice to the Respondent(s). Such notice will be given not before the public comment period for the Proposed Plan has closed.

#### **XVIII. SUBMITTALS/CORRESPONDENCE**

Any notices, documents, information, reports, plans, approvals, disapprovals, or other correspondence required to be submitted from one party to another under this Order, shall be deemed submitted either when hand-delivered or as of the date of receipt by certified mail/return receipt requested, express mail, or facsimile.

Submissions to Respondent(s) shall be addressed to:

Mr. Steven D. Smith, Project Coordinator  
Solutia Inc.  
575 Maryville Centre Drive  
P.O. Box 66760  
St. Louis, MO 63141

With copies to:

Linda W. Tape  
Thompson Coburn LLP  
One Firststar Plaza  
St. Louis, MO 63101

Submissions to U.S. EPA shall be addressed to:

Michael McAteer  
U.S. EPA - Region 5  
77 West Jackson Boulevard (SR-6J)  
Chicago, Illinois 60604-3590

With copies to:

Thomas J. Martin  
Associate Regional Counsel  
U.S. EPA - Region 5  
77 West Jackson Boulevard (C-14J)  
Chicago, Illinois 60606-3590

Submissions to Illinois shall be addressed to:

Candy Morin  
Illinois Environmental Protection Agency  
Remedial Project Management Section  
Division of Land Pollution Control  
1021 N. Grand Avenue E.  
P.O. Box 19276  
Springfield, Illinois 62794-9276

#### **XIX. SEVERABILITY**

If a court issues an order that invalidates any provision of this Order or finds that Respondent(s) have sufficient cause not to comply with one or more provisions of this Order, Respondent(s) shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

#### **XX. EFFECTIVE DATE**

This Order shall be effective upon signature by the Director, Superfund Division, U.S. EPA Region 5.




**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

This Agreement shall be executed by the Respondents in multiple counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this 17th day of November, 2000

By :   
T. M. Milton  
Major Projects Manager

Exxon Mobil Corporation  
3225 Gallows Road  
Fairfax, VA 22037

**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

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Agreed this 22 day of Nov, 2000

By D1A

DAN HERNANDEZ  
U Pros Eleuter operations

For: Peavey Company, a division of ConAgra, Inc.  
One ConAgra Drive  
Omaha, NE 68102

**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

This Agreement shall be executed by the Respondents in multiple counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument. Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this 22 day of NOV, 2000

By 

DAN HERNANDEZ

U. P. S. Elevator Operation

For: ConAgra, Inc.  
One ConAgra Drive  
Omaha, NE 68102

**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

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Agreed this 20th day of Nov., 2000

FOR: American Zinc, Lead and Smelting Company; American Zinc  
Company; Gold Fields American Corporation; (predecessors  
to Blue Tee Corp.) and Blue Tee Corp.

By Terrance Gileo Faye  
Special Counsel to Blue Tee Corp.

Terrance Gileo Faye, Esq.  
Babst, Calland, Clements & Zomnir, P.C.  
1 North Maple Avenue  
Greensburg, PA 15601  
Phone: 724-837-6221  
Fax: 724-837-0971  
E-mail: tfaye@westol.com

**IN THE MATTER OF:****SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS  
ADMINISTRATIVE ORDER ON CONSENT****SIGNATORIES**

Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this 17 day of November, 2000

BY:   
*July 11-17-00*

Everett King

Title: Vice President/Controller

FOR: CERRO COPPER PRODUCTS CO.

Location Address: 3000 Mississippi Ave  
Sauget, Illinois 62206

Mailing Address: P.O. Box 66800  
St. Louis, Missouri 63166-6800

**IN THE MATTER OF:**


**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

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Agreed this 17 day of Nov., 2000

**Pharmacia Corporation, formerly known as Monsanto Company**

Name: 

Name: Michael R. Foresman  
Title: President, Solutia Management  
Company, Inc., Agent for Solutia  
Inc., Attorney-in-Fact for Pharmacia  
Corporation



**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

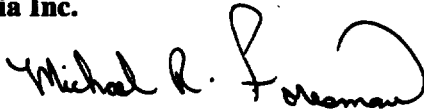
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Agreed this 17 day of Nov., 2000

**Solutia Inc.**

By:



Name: Michael R. Foresman

Title: President, Solutia Management  
Company, Inc., Agent for Solutia  
Inc.



**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS  
ADMINISTRATIVE ORDER ON CONSENT**

**SIGNATORIES**

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Agreed this 17th day of Nov., 2000

FOR: Union Electric Company

(company name)

Senior Vice President

Title: Ameren Services Company (Agent for Union Electric)

Address: One Ameren Plaza

1901 Chouteau Avenue

St. Louis, MO 63103



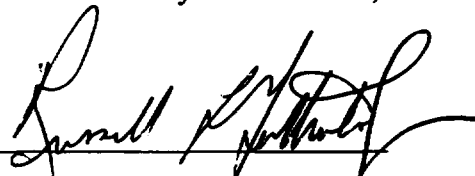
**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

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Agreed this 17<sup>th</sup> day of November, 2000

By 

Vice President – Product Supply, Ethyl Corporation

for Ethyl Corporation,

Ethyl Petroleum Additives, Inc., and

Edwin Cooper Corporation

330 South Fourth Street  
Richmond, Virginia 23219

**IN THE MATTER OF:**

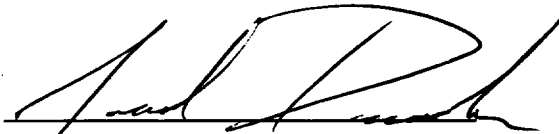
**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS  
ADMINISTRATIVE ORDER ON CONSENT**

**SIGNATORIES**

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Agreed this 17th day of November, 2000

BY:

A handwritten signature in black ink, appearing to read 'Jack Dowden', written over a horizontal line.

Jack Dowden

FOR: CHEMICAL WASTE MANAGEMENT, INC.

Title: Midwest Area Director, Closed Site Management Program

Address: Waste Management, Inc.  
720 Butterfield Road  
Lombard, IL 60148

**IN THE MATTER OF:**

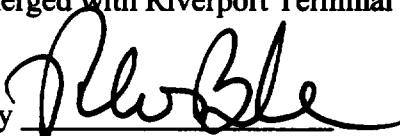
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Agreed this 20<sup>th</sup> day of November, 2000

Eagle Marine Industries, Inc. (formerly Notre Dame Fleeting and Towing, Inc. and which merged with Riverport Terminal and Fleeting, Inc.)

By   
Richard D. Burke

**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

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Agreed this 17 day of November, 2000

By



CYPRUS AMAX MINERALS CORPORATION  
PHELPS DODGE CORPORATION


**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

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Agreed this 20<sup>th</sup> day of November, 2000

By   
BFI Waste Systems of North America, Inc.

Title: Manager, CERCLA Activities

Address: Steve Doss  
C/o Allied Waste Industries, Inc.  
15880 N. Greenway-Hayden Loop  
Scottsdale, AZ 85260

**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**SIGNATORIES**

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Agreed this 17 day of Nov., 2000

The Pillsbury Company

By



~~IT IS SO ORDERED AND AGREED~~

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

~~William E. Muno, Director  
Superfund Division  
United States Environmental Protection Agency  
Region 5~~

**IN THE MATTER OF:**

**SAUGET AREA 2 SITE  
SAUGET AND CAHOKIA, ILLINOIS**

**IT IS SO ORDERED AND AGREED**

**BY:**

  
William E. Muno, Director

Superfund Division

United States Environmental Protection Agency

Region 5

**DATE:**

11-24-00

## **ATTACHMENT A**

### **SAUGET AREA 2 SITE SAUGET AND CAHOKIA, ILLINOIS ADMINISTRATIVE ORDER ON CONSENT**

American Zinc, Lead and Smelting Company  
American Zinc Company  
Cyprus Amax Minerals Company (successor to Amax Zinc)  
Phelps Dodge Corporation  
Gold Fields American Corporation  
Blue Tee Corp.  
Union Electric d/b/a AmerenUE  
BFI Waste Systems of North America, Inc.  
Cerro Copper Products Co.  
Chemical Waste Management, Inc.  
ConAgra, Inc.  
Eagle Marine Industries, Inc. (formerly known as Notre Dame  
Fleeting and Towing Inc., and which merged with Riverport Terminal and  
Fleeting Inc.)  
Edwin Cooper Corporation.  
Ethyl Corporation  
Ethyl Petroleum Additives, Inc.  
Exxon Mobil Corporation  
Pharmacia Corporation, formerly known as Monsanto Company  
Peavey Company, a division of ConAgra, Inc.  
Pillsbury Company  
Solutia Inc.



## **ATTACHMENT B**

### **SCOPE OF WORK FOR STREAMLINED REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AT SAUGET AREA 2 SITE SAUGET AND CAHOKIA, ILLINOIS**

#### **PURPOSE:**

The purpose of this Scope of Work (SOW) is to set forth requirements for the preparation of a streamlined Remedial Investigation and Feasibility Study (RI/FS). The RI shall evaluate the nature and extent of contamination resulting from the disposal/deposition of contaminants in the Sauget Area 2 Site (Sites O, P, Q, R and S) and also assess the risk from this contamination on human health and the environment. The FS Report shall evaluate alternatives for addressing the impact to human health and/or the environment from the contamination at the Sauget Area 2 Site. The RI and FS Reports shall be conducted, at a minimum, consistent with the "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (U.S. EPA, Office of Emergency and Remedial Response, October 1988) and any other guidance that U.S. EPA uses in conducting a RI/FS, as well as any additional requirements in the Administrative Order. (Any such guidance evolving or published during the conduct of the RI/FS will be provided to the Respondents at a reasonable time frame prior to the due date for submittal of appropriate interim or final deliverables identified in this SOW). The Respondents shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RI/FS at the Sauget Area 2 Site, except as otherwise specified herein.

At the completion of the RI/FS, U.S. EPA will be responsible for the selection of a Site remedy and will document this selection in a Record of Decision (ROD). The remedial action selected by U.S. EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final RI/FS reports, as adopted by U.S. EPA, and the risk evaluation/assessment will, with the administrative record, form the basis for the selection of the Site's remedy and will provide the information necessary to support the development of the ROD.

As specified in CERCLA Section 104(a)(1), as amended by SARA, U.S. EPA will provide

oversight of the Respondents' activities throughout the RI/FS, including all field sampling activities. The Respondents will support U.S. EPA's initiation and conduct of activities related to the implementation of oversight activities.

### **SCOPE:**

The tasks to be completed as part of this RI/FS are:

- Task 1.        RI/FS Support Sampling Plan
- Task 2.        Remedial Investigation
- Task 3.        RI/FS Report
- Task 4.        Progress Reports

### **TASK 1: RI/FS SUPPORT SAMPLING PLAN**

Within 90 calendar days of the effective date of the Administrative Order, Respondents shall submit a Sampling Plan to U.S. EPA and Illinois EPA that addresses all data acquisition activities. The objective of this RI/FS support sampling is to further determine the extent of contamination at the Site beyond that already identified by previous site investigations. The plan shall contain a description of equipment specifications, required analyses, sample types, and sample locations and frequency. The plan shall address specific hydrologic, hydrogeologic, and air transport characterization methods including, but not limited to, geologic mapping, geophysics, field screening, drilling and well installation, flow determination, and soil/water/sediment/waste sampling to determine extent of contamination.

Respondents shall identify the data requirements of specific remedial technologies that may be necessary to evaluate remedial activities in the RI/FS and the Respondents shall provide a schedule stating when events will take place and when deliverables will be submitted.

The RI/FS Support Sampling Plan shall include the following information:

#### **A. Site Background**

A brief summary of the Site location, general Site physiography, hydrology and geology shall be included. A summary description of the data already available shall be included which will highlight the areas of known contamination and the levels detected. Tables shall be included to display the minimum and maximum levels of detected contaminants across the Site.

#### **B. Data Gap Description**

Respondents shall make an analysis of the currently available data to determine the

areas of the Site which require additional data in order to define the extent of contamination for purposes of implementing a remedial action. A description of the number, types, and locations of additional samples to be collected shall be included in this section of the sampling plan.

Descriptions of the following activities shall also be included:

i. Waste Characterization

Respondents shall include a program for characterizing the waste materials at the Site. This shall include an analysis of current information/data on past disposal practices at the Site. For buried wastes, test pits/trenches and deep soil borings shall be proposed in the plan to determine waste depths and volume and to determine the extent of cover over fill areas when such information is not already known. Soil gas surveys shall also be proposed for the areas on and around fill areas of the site. Geophysical characterization methods, such as ground penetrating radar or magnetometry, to further delineate potential "hot spot" drum removal areas shall also be included.

ii. Hydrogeologic Investigation

The plan shall include the methods to evaluate the degree of hazard, the mobility of pollutants, discharges/recharge areas, regional and local flow direction and quality, and local uses of groundwater. The plan shall also develop a strategy for determining horizontal and vertical distribution of contaminants and may include other hydraulic tests such as slug tests, and grain size analysis to assist in determining future potential remediation options where such information has not already been obtained. Upgradient samples shall be included in the plan.

iii. Soils and Sediments Investigation

Respondents shall include a program to determine the extent of contamination of surface and subsurface soils at the Site. The plan shall also require sediment sampling in the Mississippi River bed, with the results of this sampling being considered in the Human Health and Ecological Risk Assessments.

Samples of leachate, if any, from the areas described as fill shall also be collected.

iv. Surface Water Investigation

Respondents shall include procedures for sampling of surface water in the Mississippi River (adjacent to the sites and downstream of the sites, with the results of this sampling being considered in the Human Health and Ecological Risk Assessments.

v. Air Investigation

Respondents shall include a program to determine the extent of atmospheric contamination from the various source areas at the Site. The program shall address the tendency of the substances identified through the waste characterization to enter the atmosphere, local wind patterns, and the degree of hazard.

vi. Ecological Assessment

Respondents shall include a plan for collecting data for the purpose of assessing the impact, if any, to aquatic and terrestrial ecosystems within and adjacent to the Sauget Area 2 Site, including within the Mississippi River, as a result of the disposal, release and migration of contaminants. The plan shall include a description of the ecosystems affected, an evaluation of toxicity, an assessment of endpoint organisms, and the exposure pathways. The plan shall also include a description of any toxicity testing or trapping to be included as part of the assessment. The ecological assessment shall be conducted in accordance with U.S. EPA guidance, including Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (June 5, 1997; EPA 540-R-97-006).

vii. Pilot Tests

Respondents shall include a program for any pilot test(s) necessary to determine the implementability and effectiveness of technologies where sufficient information is not otherwise available.

C. Sampling Procedures

Respondents shall include a description of the depths of sampling, parameters to be analyzed, equipment to be used, decontamination procedures to be followed, sample quality assurance, data quality objectives and sample management procedures to be utilized in the field. All sampling and analyses performed shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondents shall

ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance.

Upon request by U.S. EPA, Respondents shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondents shall provide to U.S. EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondents shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites.

Upon request by U.S. EPA, Respondents shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondents or their contractors or agents. Respondents shall notify U.S. EPA not less than 10 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

#### **D. Health and Safety Plan**

Respondents shall prepare a Site safety plan which is designed to protect on-site personnel, area residents and nearby workers from physical, chemical and all other hazards posed by this sampling event. The safety plan shall develop the performance levels and criteria necessary to address the following areas:

- \_ General requirements
- \_ Personnel
- \_ Levels of protection
- \_ Safe work practices and safe guards
- \_ Medical surveillance
- \_ Personal and environmental air monitoring
- \_ Personal hygiene
- \_ Decontamination - personal and equipment
- \_ Site work zones
- \_ Contaminant control
- \_ Contingency and emergency planning (including response to fires/explosions)
- \_ Logs, reports and record keeping

The safety plan shall, at a minimum, follow U.S. EPA guidance document Standard Operating Safety Guides (Publication 9285.1-03, PB92-963414, June 1992), and all OSHA requirements as outlined in 29 C.F.R. Part 1910.

## **E. Schedule**

Respondents shall include a schedule which identifies timing for initiation and completion of all tasks to be completed as part of this RI/FS Support Sampling Plan.

### **TASK 2: REMEDIAL INVESTIGATION**

Respondents shall conduct the Remedial Investigation according to the U.S. EPA approved Sampling Plan and schedule. Respondents shall coordinate activities with U.S. EPA's Remedial Project Manager (RPM). Respondents shall provide the RPM with all laboratory data.

### **TASK 3: REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)**

Within 12 months of the collection of the last field sample as part of the Remedial Investigation (Task 2) (as designated by the U.S. EPA RPM), Respondents shall submit to U.S. EPA for approval a draft RI/FS report addressing all of the Sauget Area 2 Site. The RI/FS shall be consistent with the administrative order and this SOW. The RI/FS report shall be completed in accordance with the following requirements:

- 1     Executive Summary
- 2     Site Characterization
  - 2.1   Site Description and Background
    - 2.1.1   Site Location and Physical Setting
    - 2.1.2   Present and Past Facility Operations and Disposal Practices
    - 2.1.2   Geology/Hydrology/Hydrogeology
    - 2.1.3   Current and past groundwater usage in the site area
    - 2.1.4   Surrounding Land Use and Populations
    - 2.1.5   Sensitive Ecosystems
    - 2.1.6   Meteorology/Climatology
  - 2.2   Groundwater Fate and Transport
    - Contaminant Characteristics
    - Groundwater Fate and Transport Processes
    - Groundwater Contaminant Migration Trends
    - Groundwater Modeling

- 2.3 Previous Removal/Remedial Actions
- 2.4 Source, Nature, and Extent of Contamination
- 2.5 Analytical Data
- 2.6 Human Health Risk Assessment
- 2.7 Ecological Risk Assessment
- 3 Identification of Remedial Action Objectives
  - 3.1 Determination of Remedial Action Scope
  - 3.2 Determination of Remedial Action Schedule
  - 3.3 Identification of and Compliance with ARARs
- 4 Identification and Analysis of Remedial Action Alternatives
- 5 Detailed Analysis of Alternatives
  - 5.1 Effectiveness
    - 5.1.1 Overall Protection of Public Health and the Environment
    - 5.1.2 Compliance with ARARs and Other Criteria, Advisories, and Guidance
    - 5.1.3 Long-Term Effectiveness and Permanence
    - 5.1.4 Reduction of Toxicity, Mobility, or Volume Through Treatment
    - 5.1.5 Short-Term Effectiveness
  - 5.2 Implementability
    - 5.2.1 Technical Feasibility
    - 5.2.2 Administrative Feasibility
    - 5.2.3 Availability of Services and Materials
    - 5.2.4 State and Community Acceptance
  - 5.3 Cost
    - 5.3.1 Direct Capital Costs
    - 5.3.2 Indirect Capital Costs
    - 5.3.3 Long-Term Operation and Maintenance
- 6 Comparative Analysis of Remedial Action Alternatives
- 7 Schedule for RI/FS Report Submission

## **RI/FS Outline:**

### **1 Executive Summary**

The Executive Summary shall provide a general overview of the contents of the RI/FS report. It shall contain a brief discussion of the Site and the current and/or potential threat posed by conditions at the Site.

### **2 Site Characterization**

The RI/FS report shall summarize available data on the physical, demographic, and other characteristics of the Site and the surrounding areas. Specific topics which shall be addressed in the site characterization are detailed below. The site characterization shall concentrate on those characteristics necessary to evaluate and select an appropriate remedy.

#### **2.1 Site Description and Background**

The site description includes current and historical information. The following types of information shall be included, where available and as appropriate, to the site-specific conditions and the scope of the remedial action.

- 2.1.1 Site Location and Physical Setting
- 2.1.2 Present and Past Facility Operations and Disposal Practices
- 2.1.2 Geology/Hydrology/Hydrogeology
- 2.1.3 Current and past groundwater usage in the site area
- 2.1.4 Surrounding Land Use and Populations
- 2.1.5 Sensitive Ecosystems
- 2.1.6 Meteorology/Climatology

#### **2.2 Groundwater Fate and Transport**

- Contaminant Characteristics
- Groundwater Fate and Transport Processes
- Groundwater Contaminant Migration Trends
- Groundwater Modeling

#### **2.3 Previous Removal Actions**

The site characterization section shall also describe any previous removal and remedial



actions at the Site. Previous information, if relevant, shall be organized as follows:

- \* The scope and objectives of the previous removal action(s)
- \* The amount of time spent on the previous removal action(s)
- \* The nature and extent of hazardous substances, pollutants, or contaminants treated or controlled during the previous removal action(s) (including all monitoring conducted)
- \* The technologies used and/or treatment levels used for the previous removal action(s).

#### **2.4 Source, Nature and Extent of Contamination**

This section shall summarize the available site characterization data for the Sauget Area 2 Site, including the locations of the hazardous substances, pollutants, or contaminants; the quantity, volume, size or magnitude of the contamination; and the physical and chemical attributes of the hazardous pollutants or contaminants.

#### **2.5 Analytical Data**

This section shall present the available data, including, but not limited to, soil, groundwater, surface water, sediments, and air. This section should discuss any historical data gaps that were identified, and the measures taken to develop all necessary additional data.

#### **2.6 Human Health Risk Assessment**

The risk assessment shall focus on actual and potential risks to persons coming into contact with on-site contaminants as well as risks to the surrounding residential and industrial worker populations from exposure to contaminated soils, sediments, surface water, air, and ingestion of contaminated organisms in surrounding impacted ecosystems. Reasonable maximum estimates of exposure shall be defined for both current land use conditions and reasonable future land use conditions. It shall use data from the Site to identify the chemicals of concern, provide an estimate of how and to what extent human receptors might be exposed to these chemicals, and provide an assessment of the health effects associated with these chemicals. The evaluation shall project the potential risk of health problems occurring if no cleanup action is taken at the Site and establish target action levels for COCs (carcinogenic and non-carcinogenic). The risk evaluation shall be conducted in accordance with U.S. EPA guidance including, at a minimum: Risk Assessment Guidance for Superfund (RAGS) (EPA/540/1-89/002, December 1989) and RAGS Part D (EPA 540/R/97/033, January

1998). The risk assessment shall also include the following elements:

- Hazard Identification (sources). The Respondents shall review available information on the hazardous substances present at the Site and identify the major contaminants of concern.
- Dose-Response Assessment. Contaminants of concern should be selected based on their intrinsic toxicological properties.
- Conceptual Exposure/Pathway Analysis.
- Characterization of Site and Potential Receptors.
- Exposure Assessment. Respondents shall develop reasonable maximum estimates of exposure for both current land use conditions and potential land use conditions at the Site.
- Risk Characterization.
- Identification of Limitations/Uncertainties.

## **2.7 Ecological Risk Assessment**

The ecological risk assessment shall be conducted in accordance with U.S. EPA guidance including, at a minimum: Ecological Risk Assessment Guidance for Superfund. Process for Designing and Conducting Ecological Risk Assessments, (EPA/540/R/97/006, June 1997).

The ecological risk assessment shall describe the data collection activities conducted as part of Task 1(B)(vi) as well as the following information:

- Hazard Identification (sources). The Respondents shall review available information on the hazardous substances present at and adjacent to the Site and identify the major contaminants of concern.
- Dose-Response Assessment. Contaminants of concern should be selected based on their intrinsic toxicological properties.
- Prepare Conceptual Exposure/Pathway Analysis.

- **Characterization of Site and Potential Receptors.**
- **Select Chemicals, Indicator Species, and End Points.** In preparing the assessment, the Respondents shall select representative chemicals, indicator species (species that are especially sensitive to environmental contaminants), and end points on which to concentrate.
- **Exposure Assessment.** The exposure assessment will identify the magnitude of actual exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels.
- **Toxicity Assessment/Ecological Effects Assessment.** The toxicity and ecological effects assessment will address the types of adverse environmental effects associated with chemical exposures, the relationships between magnitude of exposures and adverse effects, and the related uncertainties for contaminant toxicity (e.g., weight of evidence for a chemical's carcinogenicity).
- **Risk Characterization.** During risk characterization, chemical-specific toxicity information, combined with quantitative and qualitative information from the exposure assessment, shall be compared to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether concentrations of contaminants at or near the Site are affecting or could potentially affect the environment.
- **Identification of Limitations/Uncertainties.** Respondents shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the report.

### **3     Identification of Remedial Action Objectives**

The RI/FS shall develop remedial and, where appropriate, removal action objectives, taking into consideration the following factors:

\* Prevention or abatement of actual or potential exposure to nearby human populations, (including workers), animals, or the food chain from hazardous substances, pollutants, or contaminants;

- \* Prevention or abatement of actual or potential contamination of drinking water supplies and ecosystems;
- \* Stabilization or elimination of hazardous substances in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release;
- \* Treatment or elimination of hazardous substances, pollutants, or contaminants in soils or sediments that may migrate;
- \* Elimination of threat of fire or explosion;
- \* Acceptable chemical-specific contaminant levels, or range of levels, for all exposure routes.
- \* Mitigation or abatement of other situations or factors that may pose threats to public health, welfare, or the environment.

### **3.1 Determination of Remedial Action Scope**

The RI/FS shall define the broad scope and specific short-term and long-term objectives of the remedial action and address the protectiveness of the remedial action.

### **3.2 Determination of Remedial Action Schedule**

The general schedule for remedial action and, where appropriate, removal activities shall be developed, including both the start and completion time for the remedial action.

### **3.3 Identification of and Compliance with ARARs**

The RI/FS report shall identify all applicable, relevant and appropriate requirements at both the federal and state levels that will apply to the remedial action. The RI/FS shall also describe how the ARARs will be met.

## **4 Identification and Analysis of Remedial Action Alternatives**

Based on the analysis of the nature and extent of contamination and on the cleanup objectives developed in the previous section, a limited number of alternatives appropriate for addressing the remedial action objectives shall be identified and assessed. Whenever practicable, the alternatives shall also consider the CERCLA preference for treatment over conventional containment or land disposal approaches.

The use of presumptive remedy guidance, if appropriate and applicable to any of the disposal areas of the Sauget Area 2 Site, may also provide an immediate focus to the identification and analysis of alternatives. This guidance includes, but is not limited to: Implementing Presumptive Remedies (EPA 540-R-97-029, October 1997). Presumptive remedies involve the use of remedial technologies that have been consistently selected at similar sites or for similar contamination.

A limited number of alternatives, including any identified presumptive remedies, shall be selected for detailed analysis. Each of the alternatives shall be described with enough detail so that the entire treatment process can be understood. Technologies that may apply to the media or source of contamination shall be listed in the RI/FS report.

The preliminary list of alternatives to address soil, sediments, wastes, and groundwater contamination at the Sauget Area 2 Site shall consist of, but is not limited to, treatment technologies (i.e., thermal methods), removal and off-site treatment/disposal, removal and on-site disposal, in-place containment, and natural attenuation.

## **5     Detailed Analysis of Alternatives**

Defined alternatives are evaluated against the short- and long-term aspects of three broad criteria: effectiveness, implementability, and cost.

### **5.1     Effectiveness**

The effectiveness of an alternative refers to its ability to meet the objective regarding the scope of the remedial action. The "Effectiveness" discussion for each alternative shall evaluate the degree to which the technology would mitigate threats to public health and the environment. Criteria to be considered include:

#### **5.1.1   Overall Protection of Public Health and the Environment**

How well each alternative protects public health and the environment shall be discussed in a consistent manner. Assessments conducted under other evaluation criteria, including long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs shall be included in the discussion. Any unacceptable short-term impacts shall be identified. The discussion shall focus on how each alternative achieves adequate protection and describe how the alternative will reduce, control, or eliminate risks at the Site through the use of treatment, engineering, or institutional controls.

### **5.1.2 Compliance with ARARs and Other Criteria, Advisories, and Guidance**

The detailed analysis shall summarize which requirements are applicable or relevant and appropriate to an alternative and describe how the alternative meets those requirements. A summary table may be employed to list potential ARARs. In addition to ARARs, other federal or state advisories, criteria, or guidance to be considered (TBC) may be identified.

### **5.1.3 Long-Term Effectiveness and Permanence**

This evaluation assesses the extent and effectiveness of the controls that may be required to manage risk posed by treatment of residuals and/or untreated wastes at the Site. The following components shall be considered for each alternative: magnitude of risk; and adequacy and reliability of controls.

### **5.1.4 Reduction of Toxicity, Mobility, or Volume Through Treatment**

Respondents' analysis shall address U.S. EPA's policy of preference for treatment including an evaluation based upon the following subfactors for a particular alternative:

- \* The treatment process(es) employed and the material(s) it will treat
- \* The amount of the hazardous or toxic materials to be destroyed or treated
- \* The degree of reduction expected in toxicity, mobility, or volume
- \* The degree to which treatment will be irreversible
- \* The type and quantity of residuals that will remain after treatment
- \* Whether the alternative will satisfy the preference for treatment

### **5.1.5 Short-Term Effectiveness**

The short-term effectiveness criterion addresses the effects of the alternative during implementation before the remedial objectives have been met.

Alternatives shall also be evaluated with respect to their effects on human health and the environment following implementation. The following factors shall be addressed as appropriate for each alternative:

- \* Protection of the Community
- \* Protection of the Workers
- \* Environmental Impacts
- \* Time Until Response Objectives are Achieved

## **5.2 Implementability**

**This section is an assessment of the implementability of each alternative in terms of the technical and administrative feasibility and the availability of the goods and services necessary for each alternative's full execution. The following factors shall be considered under this criterion:**

### **5.2.1 Technical Feasibility**

**The degree of difficulty in constructing and operating the technology; the reliability of the technology, the availability of necessary services and materials; the scheduling aspects of implementing the alternatives during and after implementation; the potential impacts on the local community during construction operation; and the environmental conditions with respect to set-up and construction and operation shall be described. Potential future removal actions shall also be discussed. The ability to monitor the effectiveness of the alternatives may also be described.**

### **5.2.2 Administrative Feasibility**

**The administrative feasibility factor evaluates those activities needed to coordinate with other offices and agencies. The administrative feasibility of each alternative shall be evaluated, including the need for off-site permits, adherence to applicable non-environmental laws, and concerns of other regulatory agencies. Factors that shall be considered include, but are not limited to, the following: statutory limits, permits and waivers.**

### **5.2.3 Availability of Services and Materials**

**The RI/FS must determine if off-site treatment, storage, and disposal capacity, equipment, personnel, services and materials, and other resources necessary to implement an alternative shall be available in time to maintain the remedial schedule.**

### **5.2.4 State and Community Acceptance**

**State and community acceptance will be considered by U.S. EPA before a final**

remedial action is decided upon. Respondents need only mention in the RI/FS report that U.S. EPA will consider and address State and community acceptance of an alternative when making a recommendation and in the final selection of the alternative in the ROD.

### **5.3 Cost**

Each alternative shall be evaluated to determine its projected costs. The evaluation should compare each alternative's capital and operation and maintenance costs. The present worth of alternatives should be calculated.

#### **5.3.1 Direct Capital Costs**

Costs for construction, materials, land, transportation, analysis of samples, treatment shall be presented.

#### **5.3.2 Indirect Capital Costs**

Cost for design, legal fees, permits shall be presented.

#### **5.3.3 Long-Term Operation and Maintenance Costs**

Costs for maintenance and long-term monitoring shall be presented.

## **6 Comparative Analysis of Remedial Action Alternatives**

Once remedial action alternatives have been described and individually assessed against the evaluation criteria described in Section 5, above, a comparative analysis shall be conducted to evaluate the relative performance of each alternative in relation to each of the criteria. The purpose of the analysis shall be to identify advantages and disadvantages of each alternative relative to one another so that key trade offs that would affect the remedy selection can be identified.

## **7 Schedule for RI/FS Report Submission**

The Respondents shall hold monthly meetings with the U S. EPA and Illinois EPA to review the RI/FS progress.

As part of the Risk Assessment work, and within 8 months following the collection of the last field sample as part of the Remedial Investigation (Task 2), Respondents shall



present at a meeting the alternatives to undergo a more detailed analysis.

A draft RI/FS report shall be submitted to U.S. EPA and Illinois EPA within 12 months following the collection of the last field sample as part of the Remedial Investigation (Task 2)(as designated by the RPM). The amended RI/FS report if required, shall be submitted to U.S. EPA and Illinois EPA within 30 days of the receipt of U.S. EPA's comments on the draft RI/FS report.

Following U.S. EPA approval of the RI/FS report, U.S. EPA will issue a Proposed Plan to the public wherein U.S. EPA will propose one, or a combination, of the alternatives evaluated in the FS. Public comments will be solicited and evaluated before U.S. EPA makes a final decision on a remediation plan. The final decision will be documented in the ROD for the Sauget Area 2 Site.

#### **TASK 6: PROGRESS REPORTS**

Respondents shall submit a monthly written progress report to U.S. EPA and Illinois EPA concerning actions undertaken pursuant to the Order and this SOW, beginning 30 calendar days after the effective date of the Order, until termination of the Order, unless otherwise directed in writing by the RPM. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

## **SCHEDULE FOR MAJOR DELIVERABLES**

<b>Deliverable</b>	<b>Deadline</b>
TASK 1: Draft RI/FS Support Sampling Plan	90 calendar days after effective date of Order
TASK 1: Final RI/FS Support Sampling Plan	21 calendar days after receipt of U.S. EPA comments
TASK 3: Draft RI/FS Report	12 months following collection of last field sample as part of RI (Task 2). To be designated by RPM
TASK 3: Final RI/FS Report	30 calendar days after receipt of U.S. EPA comments on draft RI/FS Report
TASK 4: Monthly Progress Reports	10th business day of each month (Commencing 30 days after effective date of Order)
Miscellaneous Documents	In accordance with submittal date provided by RPM

